

**Notice of Allowability**

Application No.

10/762,539

Applicant(s)

KATAOKA ET AL.

Examiner

Arnold Castro

Art Unit

3747

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ The drawings filed on 23 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 20040123
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

Claim 1 is the only independent claim all claims depend from claim one and are allowable for at least the reason claim 1 is allowed.

Claim 1:

A stop and start control apparatus of an internal combustion engine comprising: a stop control unit which controls a crank angle of the internal combustion engine within a range of a predetermined crank angle at a time of stopping the internal combustion engine; and a start control unit which starts the internal combustion engine by a cranking unit at a time of starting the internal combustion engine, **wherein the start control unit starts the internal combustion engine by different methods when there is a probability that the internal combustion engine does not stop within the range of the predetermined crank angle and when the internal combustion engine stops within the range of the predetermined crank angle.**

It is known by the likes of Brehob et al, Downs et al, and Grob et al. etc. to bring an engine to rest at a controlled crank angle. It is also known by the likes of Bolenz et al and Morimoto et al either a conventional starter or a starter generator or both to start an engine. However, the prior art does not suggest or teach the combination when there is a probability that the internal combustion engine does not stop within the range of the predetermined crank angle. Bolenz et al and Morimoto et al and other art of record use the engine or environmental temperature to determine the starting method. A person having ordinary skill in the art would not consider the variation in cranking load between different stopping locations to be in the same degree as temperature variation. Thus the prior art teaches away from the combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Allowable Subject Matter***

2. Claims 1-13 allowed.

***Conclusion***


3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are discussed in reasons for allowance.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Castro whose telephone number is (703) 305-0039. The examiner can normally be reached on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuen Henry can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC

  
**MAHMOUD GIMIE  
PRIMARY PATENT EXAMINER  
ART UNIT 3747**

  
Arnold Castro  
Examiner  
Art Unit 3747